

# DAIMLERCHRYSLER

October 27, 2000

Margalie Roman Salas  
Secretary, Federal Communications Commission  
445 12<sup>th</sup> St., SW  
Room TW-204-B  
Washington, DC 20554

Re: Comment to FCC Proceeding 98-153 (Ultra-Wideband)

Dear Secretary Salas;

I am writing on behalf of DaimlerChrysler Research and Technology North America in regard to the FCC's Notice of Proposed Rulemaking on ultra-wideband radio transmissions. UWB systems are likely to play a significant role in future vehicle safety systems from communications to radar, and we encourage the development of this technology. However, we also recognize that GPS is a critical component of safety of life vehicle systems, such as Automatic Collision Notification. We expect this trend to continue with GPS becoming even more important for safety critical applications as the accuracy and reliability increase. To this end, we are concerned about the potential for UWB systems to cause interference with GPS positioning systems and ask that any decision to deploy UWB systems is dependent on a complete understanding of the effects of UWB systems on current and future satellite based positioning systems.

Absolute vehicle positioning capability is relatively new to the automotive industry and the potential for this technology is not well understood. With expected upgrades to GPS systems, and the possible existence of other positioning systems (Galileo), it seems likely that within the next 20 years vehicle positioning on the order of decimeters will be practical. This technology is expected to enable new safety applications such as collision avoidance and lane departure warning, with the potential to save many thousands of lives and billions of dollars annually in North America. Several automotive companies (including DaimlerChrysler) have initiated research into the safety potential for this technology. An industry position on the value of, and requirements for, position based safety systems is expected in the next few years, and

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several position based safety systems are in development. There are no viable alternatives to the use of GPS or similar systems in the same bands to enable these vehicle safety systems. Excessive UWB radiation in the navigation bands may preclude the deployment of some of these future safety systems.

One can conceive of a future where cars commonly have several built in UWB devices for proximity warning, distance sensing, communications and other applications. In this situation a vehicle in a congested area may encounter dozens or even hundreds of UWB devices transmitting in close proximity. It appears that the combined effects on GPS of hundreds of UWB devices, built by different manufacturers with different ages, are not well understood. The potential savings of lives and money from the full and wide utilization of GPS in the automotive industry is definitely not understood. The ramification of ubiquitous UWB transmitters in the GPS bands on the ability to deploy position based safety systems (and hence contribute to public safety) should be understood before a deployment decision is made.

There are many valuable applications that can be built on UWB technology, but UWB has the potential to make safety critical GPS applications unavailable to the public. We ask that the FCC not allow a system that may degrade the availability of GPS (and other positioning services in the navigation bands), now or in the foreseeable future.

Sincerely,



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